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ABSTRACT

No library in Nebraska can be self-sufficient; and, what Nebraska badly needs is a pool of knowledge, a total information source. Nebraska's problem is how to make information in one part of the state available to a user in another part. A parallel problem is how to make this information available as quickly as possible. The requirements for a library system are: (1) a storage mechanism, (2) an orderly means for getting at the information and (3) rapid retrieval and dissemination. These requirements are fulfilled in Nebraska by (1) its libraries, (2) the Nebraska Union Catalog, and (3) the use of telecommunication equipment. This information network is considered to be an efficient one, and those in charge of its operation have shown a willingness to continually re-evaluate the system and to expand the network beyond its present limits whenever the opportunities arise. (Author/SJ)

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NEBRASKA'S INFORMATION NETWORK:

A STATE OF THE ART SURVEY

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NEBRASKA'S INFORMATION NETWORK:

A STATE OF THE ART SURVEY

Geographically, the state of Nebraska is the fifteenth largest of the fifty states. From the southeast section of the state to the northwest section, the distance is some 600 miles. It is a rule of thumb in Nebraska to say that two-thirds of the population lives in the eastern one-third of the state. Since the state is thirty-five in size of population according to the 1970 preliminary census, this means that the great majority of the land area of Nebraska is sparsely populated.

In addition to its two universities located in Lincoln and Omaha, Nebraska has four state-supported colleges whose main function is teacher-training. These colleges are in the southeastern, northeastern, central and northwestern sections of the state. There are also many private and church-related colleges, community colleges and junior colleges, several trade schools, and several church-related universities scattered throughout the state. There can be added to these institutions the 260 public libraries, the innumerable public school libraries, various specialized libraries, and the state library.[1]

William A. Katz has stated that, "Increasingly, no library can be self-sufficient . . . " and, "What is badly needed is a pool of knowledge, a total information resource."[2] Although he was speaking in general terms, his comments can be applied to a specific situation. To phrase these remarks so they are more specifically applicable to the subject under consideration: no library in Nebraska can be self-sufficient; and, what Nebraska badly needs is a pool of knowledge, a total information source.

The question Nebraska has to answer is not, however, "Is a state-wide information network necessary?" This has been answered affirmatively by the citizens of the state.[3] Nebraska's problem is how to make information in one part of the state available to a user in another part of the state. A parallel problem is how to make this information available as quickly as possible.

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[1]Appendices 1, 2, 3, and 4. Imposed on a map of Nebraska which has been divided into regions according to the Regional Organization for Nebraska's Public Libraries; a Plan with Minimum Standards, Revised 1967 are the location of 1) the key library or libraries within each region, 2) the state university of branch, state-supported college, and private college or university, 3) community colleges, junior colleges, small private colleges, and professional and trade schools and 4) a composition of all the above in relation to each other

[2]William A. Katz, Introduction to Reference Work, Vol. II, Reference Service (New York: McGraw-Hill Book Co., 1969), p. 181

[3]"The Library Commission is the center for Library development in the State of Nebraska and coordinates library service throughout the state." Nebraska Blue Book (1968), p. 511

A number of states in recent years have conducted surveys of their information resources and have developed plans for the implementation of networks. A total of 145 state-wide surveys and development plans were published between 1956 and 1968.[4] Consequently, Nebraska is not alone in its need for an information network and in its efforts to develop such a network. Its problems, although influenced by local circumstances, are the problems many states have.

It has been suggested that there are three requirements for a library system where the user desires information outside his library community.[5] The first of these requirements is that the information must be in storage somewhere. The second requirement is that the prospective user must have access to information through an intermediary library because chaos would result if every person who had a need communicated with and borrowed from any library. To prevent chaos and at the same time permit use, a filtering system is necessary to provide some form of control. This filtering system is set up in the form of levels of library service. The third requirement is that there must be a library system that permits the use of materials and a communication network that permits the rapid transfer of the request and the rapid delivery of the information.

In brief, then, the requirements for a library system are that 1) information must be stored; 2) there must be an orderly way of getting at this information; and 3) there must be a quick way both in getting at and in communicating this information to the user.

It is assumed that these criteria are valid and are sufficiently general in scope to serve as a helpful guide in understanding and evaluating an information network, whether it be on a state, regional or national level. More to the point, it is assumed that these three requirements will be useful guidelines in a study of Nebraska's information network.

If Nebraska's network is workable, it must have information in storage somewhere. The storage area for Nebraska's information is its libraries. Such information would be of little use, though, if there were no means of locating it. Nebraska's finding device is the Nebraska Union Catalog which is maintained by the Nebraska Public Library Commission with the cooperation of thirty of the largest libraries in the state. The Union Catalog was started in the 1930's with WPA labor.[6] It is kept up-to-date by the Public Library Commission, and through its use a user can quickly learn if the information he needs is within the state. It is analyzed annually by its creator, Miss Eleanor Campion, Director, Union Catalog, Philadelphia.

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[4]Galen E. Rike, State-wide Library Surveys and Development Plans: An Annotated Bibliography, 1956-67. (Urbana: University of Illinois Press, 1968)

[5]E. Stanley Beacock, "The Development of An Information Network," Ontario Library Review, 53:199-202, December, 1968

[6]Based on personal correspondence between (Mrs.) Jane P. Geske, Interim Executive Secretary of the Nebraska Public Library Commission, and the writer. November 4, 1969

Having learned that the information he needs is within the state, the user needs to get at it in an orderly manner. To do this he works through an intermediary library.

Nebraska's library system was set up in 1962 in accordance with the outline in Regional Organization for Nebraska Libraries, which was published in 1962. Under the plans and policies outlined in this manual, twelve regional systems were developed and six others were projected.[7] The original plan was to develop a regional pattern which would include all public libraries and to establish minimum standards for those libraries recommended as regional library centers.

Nebraska's Plan For Library Services, Revised 1967 made revisions in both these areas.[8] Regions were changed to conform with expressed preferences in alignment and natural access. In large regions, three units of the system were projected to act as cooperating branches of the regional system.[9]

In addition, the standards for regional centers were also revised to conform with the ALA's Minimum Standards for Public Library Systems, 1966 which updated Public Library Service: A Guide to Minimum Standards, 1956 upon which Nebraska had based its original standards. The new revision placed even greater emphasis upon cooperative alignments to provide a flexible operative library network.

In February, 1970 regions were again revised so that the nine communication networks then in operation were enlarged in size and reduced in number to six.[10] This was the result of combining the twenty regional library areas and the State Office of Planning and Programming's twenty-six building blocks, with the State Office's approval so the six units would have a basic population of 100,000 and a minimum evaluation of $300,000,000.

Presently, the land value in relation to population runs from a high of $7434.00 per person in the Central Network to a low of $2947.00 per person in the Metropolitan Network. The six networks are designated as the Panhandle, Mari Sandoz, Southern Northern, Central and the Metropolitan.[11]

The final requirement for a library system, in addition to knowing where information is stored and getting at this information in an orderly way, is that information must be gotten to the user quickly. In order for this to happen, the request for information must be promptly dispatched and promptly answered. It is in the execution of this requirement that a network shows its efficiency or lack of efficiency.

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[7]Nebraska's Plan for Library Service, Section I. Regional Organization for Nebraska's Public Libraries. (Lincoln: Nebraska Library Association, 1967), p. 1

[8]Nebraska's Plan for Library Service, Section I, p. 1

[9]See Appendix 5

[10]See Appendix 6

[11]See Appendix 6 and also Appendix 8 which is the most recent revision

There are a number of ways in which this final step in the communication of information can be performed. A courier can be employed. Interlibrary Loan forms can be used. A TWX or WATS system can be developed. Facsimile transmission is possible, as is a hookup to a central computer or memory bank.

A courier system is utilized for the exchange of materials between the state universities located in Omaha and Lincoln. This courier system, though, seems to be limited to the Omaha-Lincoln area and is of little benefit to other library users within the state.

Interlibrary Loan services are available on a state-wide basis and one library, if it so chooses, can correspond directly with another library. The use of Interlibrary Loan services, however, would seem to defeat the major advantage of an information network, which is speed. The time lapse between the initiation of a request and the reception of the information when Interlibrary Loan services are used may, at the highest level of efficiency, be numbered in days while, at the lowest level of inefficiency, the time lapse may be numbered in weeks and even months.

It is the use of telecommunication equipment that an information network begins to fulfill its function of rapid transmission of the request for information and prompt dispatch of the needed information.

Nebraska is vitally interested in telecommunications.[12] An office for the development of telecommunications has been established, the State Telecommunications Office, and the Library Commission cooperates with this office on planning.

The Library Commission coordinates the state-wide teletype network. This network presently consists of nineteen installations maintained by the Public Library Commission and one cooperating installation maintained by the University of Nebraska Medical Library in Omaha.[13] The nineteen installations interconnect the regional library headquarters, the University of Nebraska and the University of Nebraska at Omaha.[14] The latest installation to be established was at Chadron State College in the northwest area of the Panhandle in September, 1970.[15] Although secondary schools are not directly hooked up to the network, they can use the facilities through the nearest regional public library.[16] It is the opinion of the Administrative Director of Educational Media Services within the state that Nebraska's TWX system is functioning quite well.[17] To

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[12]Based on personal correspondence between (Mrs.) Jane P. Geske and the writer, December 1, 1969

[13]Geske, Letter of November 4, 1969

[14]Geske, Letter of November 4, 1969

[15]Geske, Letter of September 28, 1970

[16]Based on personal correspondence between Lester W. Harvey, Administrative Director Educational Media Services, Nebraska Department of Education, and the writer, November 5, 1969

[17]Harvey, Letter of November 5, 1969

improve its effectiveness, an annual TWX Workshop is sponsored by the State Public Library Commission and resources within the specific areas of the state are being cross checked.[18]

This, then, is the State of Nebraska's information network: its Union Catalog, in use since the 1930's, is the tool for locating information stored within the state; the user gets at this information through the services of regional libraries which make use of a TWX network coordinated by the State Public Library Commission located in Lincoln. Although the network is presently composed of six regions in which twenty TWX units are functioning (this total includes the unit maintained by the University of Nebraska Medical Center and the unit at the Public Library Commission[19]); it is the hope of the network planners that libraries of all types may be included in the future.[20]

The planners of Nebraska's network have also given some attention to future developments of the system beyond the state level although, as stated in Nebraska's Plan for Library Service, the state's standards for an information network are minimum and are based on a knowledge of the state's potentials.[21] Consequently, future refinements and expansion of the network will depend on state and federal funding.

In June, 1968 a Midwest Conference on Intergovernmental Telecommunications was held in Lincoln under the joint sponsorship of the Midwest Region Council of State Governments, the Midwest Governors' Conference, and the State of Nebraska. Twelve states were represented at this conference, plus a number of representatives from city governments throughout the country and from the telecommunication industries. The objectives of this conference were to identify guidelines to assist state governments in the development of appropriate programs to meet comprehensive intergovernmental communication needs, to examine the application of telecommunication science and technology to the current and projected requirements of all levels of government, and to provide the essential platform upon which to build.[22]

The expansion of Nebraska's information network so that it is part of a regional, and eventually a national, network is certainly desirable and, it might be said, necessary because its own resources are limited. Better services could be offered to residents in the western part of the state if they were part of the developing information networks of Colorado and Wyoming. The Nebraska Public Library Commission is an active participant in the Rocky Mountain Bibliographic Center located in Denver and use is made of the area's collections. A greater use is made of the resources of Missouri and Eastern Universities, partly because of the higher population in the Eastern part of Nebraska and partly because of the East's greater resources.

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[18]Geske, Letter of November 4, 1969

[19]See Appendix 7

[20]Nebraska's Plan for Library Service, Section I, p. 1

[21]Nebraska's Plan for Library Service, Section I, p. 1

[22]Program. A Midwest Conference On Intergovernmental Telecommunications, June 19-20, 1968

A still more distant development perhaps, but one which undoubtedly will occur is the development of a national network. On November 25, 1969 the Federal Communication Commission was asked by Data Transmission Company (Datran) headquartered in Falls Church, Virginia to approve a new coast-to-coast communications network to service the rapidly expanding market for the transmission of computer data. This system would stretch from San Francisco to Boston and cover thirty-five major metropolitan areas.[23] Whether or not the national information network of the future will develop independent of commercial networks or make use of such facilities is a question yet to be answered. The developing role of the Library of Congress in this area may determine the final answer. Nebraska favors a national network.[24]

As of September 1, 1970 every public library in the state (with the exception of one region yet to be developed) is connected through its telephone on a collect call basis to its regional teletype installation, which either supplies the materials requested or refers the request to the Public Library Commission.[26]

Another medium which Nebraska might use (and is considering) to increase the efficiency of its system (information network) is that of telefacsimile transmission. A study of three makes of telefacsimile equipment was made under the sponsorship of the University of Nevada Library in 1967.[27] The three makes were: (1) Xerox Magnavox Telecopier, (2) Datafax 1824 and Dial-Datafax, and (3) Alden II Docufax. Each of these systems is capable of operating at a minimum cost by using a single voice-grade telephone line. The conclusion of the study was that all three makes perform with sufficient reliability and copy quality for most library purposes. The technical and economic feasibility of facsimile transmission is also the conclusion of Sharon Schatz.[28]

The use of facsimile transmission is meant as a suggestion for improvement of an already existing and, in the opinion of those most qualified to make a judgment, an efficient system. In the consideration of an information network, though, it should be kept in mind that, in Katz's words, there is no consensus "as to the final form an information network should take."[29] He points out the obstacles hindering the development of information networks; coordinating various types of libraries, political boundaries, the reluctance of some libraries

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[23] Denver Post, November 26, 1969, p. 24

[24] Geske, Letter of September 28, 1970

[25] Bruce A. Shuman, "WATS Happening in North Carolina?" Library Journal, 94:945-47, March 1, 1969

[26] Geske, Letter of September 28, 1970

[27] H.G. Morehouse, Equipment for Facsimile Transmission Between Libraries; A Description and Comparative Evaluation of Three Systems (Reno: Library, University of Nevada, 1967)

[28] Sharon Schatz, Facsimile Transmission in Libraries--A State of the Art Survey (Washington, D.C.: Information System Office, Library of Congress, 1967)

[29] Katz, p. 181

to cooperate, a lack of librarians who are expert in a subject speciality, ready access to resources, sub-standard budgets, and a failure to continually re-evaluate a system to insure effectiveness.[30]

As far as Nebraska's information network is concerned, though, it now has a valuable tool in its Union Catalog for locating information stored within the state; an initial program of imprints through 1959 is being microfilmed and experimental copies will be placed in each of the six multi-regional library networks; it has an operating TWX network of twenty units in six regions coordinated by the State Public Library Commission in Lincoln through which the rapid transfer of a request and the rapid delivery of the information is possible; (turnaround time studies are now being made) and those in charge of its operation have shown a willingness to continually re-evaluate the system and to expand the network beyond its present limits whenever the opportunities arise.

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[30]Katz, p. 203

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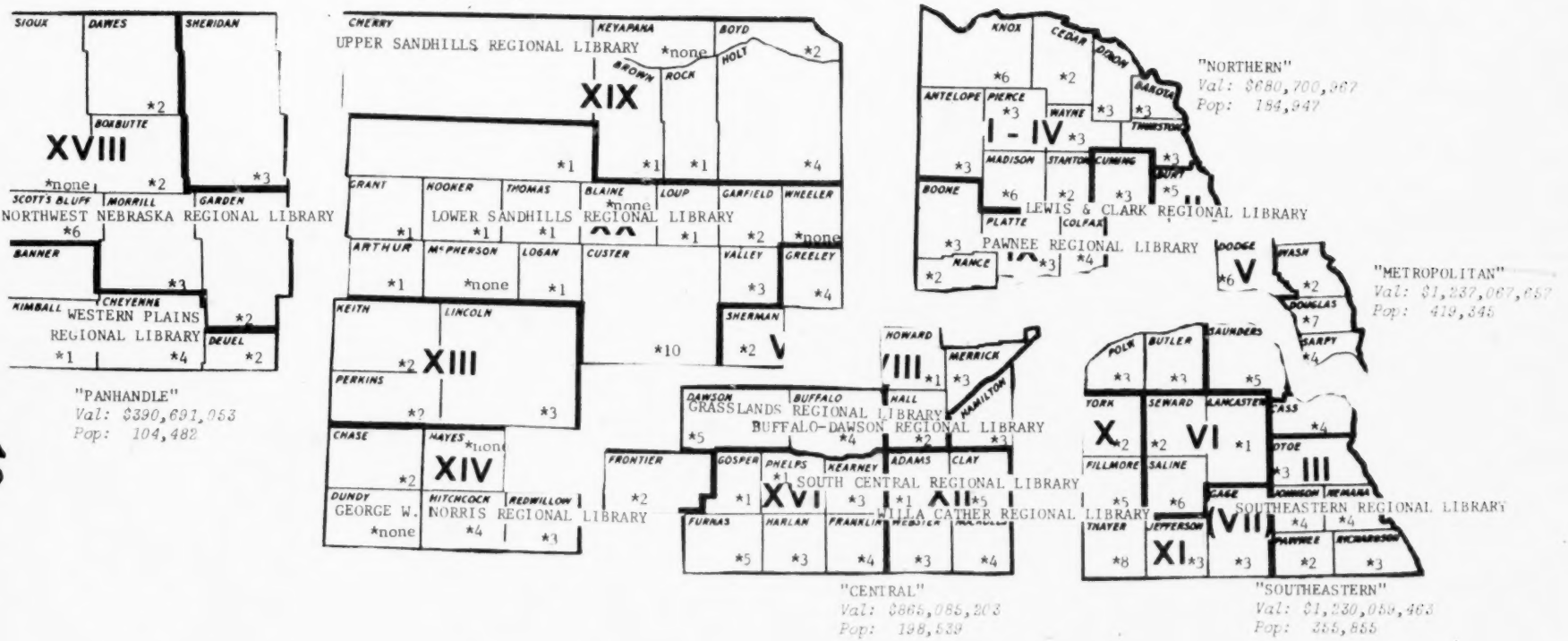

NETWORKS.....

Regional Library Organization and Multi-Regional Library Networks.

Arrangement for Establishing Library Resources in Depth and for Studying and Cross Checking Resources and Services...

*Number of Public Libraries Located in County...

Revised--April, 1970